Interim Annual Report to the Alaska Board of Game on Intensive Management for Moose with Wolf Predation Control in Game Management Unit 16

Prepared by the Division of Wildlife Conservation
August 2011

Interim annual updates are limited to sections that have changed substantially since the prior annual report in February. For complete information, see the prior annual report.

1) Prey data

Date(s) and method of most recent abundance assessment for moose: 18 November 2010

Compared to IM area, was a similar trend and magnitude of difference in abundance observed in nearby non-treatment area(s) since program inception (Y/N) N/A and in the last year (Y/N)? N/A

A suitable comparison cannot be made with adjacent non-treatment areas.

Describe comparison if necessary: N/A

Date(s) of most recent age and sex composition survey (if statistical variation available, describe method here and show result in Table 1):

Subunit 16B South, 13-18 November 2010; 16B Middle, 15-17 November 2010; 16B North 29-31 October 2008

Table 1. Moose abundance, age and sex composition in assessment area (L) since program implementation in Year 1 (2005) to reauthorization review in year 6 (2011) in Subunit 16B. Regulatory year is 1 July to 30 June (e.g, RY 2010 is 1 July 2010 to 30 June 2011). Note: This table is subdivided into areas corresponding with Subunit 16B survey areas

North			Composition (number per 100 females)			
Period	RY	Abundance (variation)	Young	Yearlings	Males	Sample size
Year 1	2005					
Year 2	2006	898 ± 162.5*	17	13.6	35.3	326
Year 3	2007	Not surveyed				
Year 4	2008	1042 ± 235	11	32	59.7	340
Year 5	2009	Not surveyed				
Year 6	2010	Not surveyed				

*Survey data is from 2003

Middle			Composition (number per 100 cows)			
Period	RY	Abundance (variation)	Calves	Yearlings	Bulls	Sample size
Year 1	2005					
Year 2	2006	1714 ± 218*	14	8	29.29	628
Year 3	2007	Not surveyed				
Year 4	2008	2446 ± 322**	21	21.6	54	678
Year 5	2009	Composition Survey	19.4	na	38.8	359
Year 6	2010	Not surveyed				

*Survey data is from 2005

**Estimate includes sightabilty correction factor of 1.28

South			Composition (number per 100 cows)			
Period	RY	Abundance (variation)	Calves	Yearlings	Bulls	Sample size
Year 1	2005					
Year 2	2006	~960*	23	19.4	23.2	604
Year 3	2007	Not surveyed				
Year 4	2008	Composition Survey	18.3	25.4	77.8	247
Year 5	2009	Not surveyed				
Year 6	2010	2372 ± 778**	17.8	30.2	51.5	703

*Survey data are from 2004
**Estimate includes sightablity correction factor of 1.57

Describe trend in abundance or composition:
Increases in the population may be due in part to changes in survey techniques.

2) Predator data

Date(s) and method of most recent spring abundance assessment for wolves (if statistical variation available, describe method here and list in Table 3):

Wolf populations are estimated from SDA pilot, trapper, hunter reports, and population modeling

Table 2. Wolf abundance objectives and removal in wolf assessment area of the Unit 16 Predation Control Area. Removal objective is 73-80 % of pre-control fall abundance in year 1 of wolf predation control program, so minimum number remaining by 30 April each RY in the IM area must be at least 22.

Period	RY	Fall abundance (variation)	Harvest removal		Dept. control removal	Public control removal	Total removal[a]	Spring abundance (variation)
			Trap	Hunt				
Year 0	2004	150 to 200	11	26	0	91	128	22 to72
Year 1	2005	91 to 122	25	12	0	24	61	30 to 61
Year 2*	2006	98 to 143	8	9	0	32	49	49 to 95
Year 3	2007	104 to 130	5	6	0	21	32	72 to 98
Year 4	2008	82 to 102	15	8	0	24	47	35 to 55
Year 5	2009	71 to 97	1	5	0	3	9	62 to 88
Year 6	2010	62 to 106	4	4	0	11	19	52 to 78

[a]Additional removal may be Defense of Life and Property, vehicle kill, etc.

Table 3. Black bear abundance objectives and removal in the black bear assessment area of the Unit 16 Predation Control Area. Removal objective is 80 % of pre-control spring abundance in year 1 of bear predation control program, so minimum number remaining by 31 October each RY in the IM area defined in must be at least 600.

Period	RY	Spring abundance (variation)	Harvest removal		Dept. control removal		Public control removal		Total removal[b]	Fall abundance (variation)
			FA	SP	FA	SP	FA	SP		
Year 1	2005		52	111	---	---	---	---	163	
Year 2	2006		75	112	---	---	---	---	187	
Year 3[a]	2007	3500± 300	72	210	0	0	1	106	389	
Year 4	2008		69	163	0	0	32	131	395	
Year 5	2009		76	95	0	0	23	99	293	
Year 6	2010		102	51	0	0	113	58	324	

[a]For example, bear harvest needed for 31 October calculation in Year 1 combines spring (SP: 1 January-30 June) of the prior RY (Year 0) with fall (FA: 1 July – 31 Dec) of the current RY.
[b]Additional removal may be Defense of Life and Property, vehicle kill, etc.

Table 4. Brown bear abundance objectives and removal in black bear assessment area of the Unit 16 Predation Control Area. Removal objective is 60 % of pre-control spring abundance in year 1 of bear predation control program, so minimum number remaining by 31 October each RY in the IM area must be at least 250. If non-lethal predation control methods used by Department personnel, clarify with footnote in control removal tally.

Period	RY	Spring abundance (variation)	Harvest removal		Dept. control removal		Public control removal		Total removal[b]	Fall abundance (variation)
			FA	SP	FA	SP	FA	SP		
Year 1	2005		64	69	---	---	---	---	133	
Year 2	2006		56	51	---	---	---	---	107	
Year 3[a]	2007	937 ± 313	65	40	---	---	---	---	105	
Year 4	2008		83	36	---	---	---	---	119	
Year 5	2009		34	28	3	---	---	---	65	
Year 6	2010		95	16	---	18	---	---	129	

[a]For example, bear harvest needed for 31 October calculation in Year 1 combines spring (SP: 1 January-30 June) of the prior RY (Year 0) with fall (FA: 1 July – 31 Dec) of the current RY.
[b]Additional removal may be Defense of Life and Property, vehicle kill, etc.

3) Habitat data and nutritional condition of prey species

Table 5. Nutritional indicators for moose in the Unit 16 Predation Control Area.

Period	RY	Pregnancy Rate of radio collared cows[a]	Twinning Rate of radio collared cows[b]	Average Rump Fat in Spring (cm)[c]
Year 1	2004	71.43	51%	0.6 ± 0.212
Year 2	2005	83.33	45%	1.4 ± 0.704
Year 3	2006	79.78	50%	1.8 ± 0.816
Year 4	2007	70.79	48%	-------
Year 5	2008	78.95	59%	0.5 ± 0.200
Year 6	2009	83.72	47%	-------
Year 7	2010	72.22	54%	-------

[a] Apparent pregnancy rate based on field observations of calves born to radio collared cows. The reported values likely underestimate calf production in cases where calves were born, but lost before they could be observed by biologists.

[b] Apparent twinning rate is based on field observations of the number of calves born to individual radio collared cows. The reported values likely underestimate twinning in cases where twins were born, but one or both were lost before they could be observed by biologists.

[c]Rump Fat measurements are collected using an ultrasound during the spring capture of adult cow moose.

4) Costs specific to implementing Intensive Management

Table 6. Cost ($1000 = 1.0) of agency salary based on estimate of proportional time of field level staff and cost of operations for intensive management activities (e.g., predator control or habitat enhancement beyond normal Survey and Inventory work) performed by personnel in the Department or work by other state agencies (e.g., Division of Forestry) or contractors in the Unit 16 Predation Control Area. Fiscal year (FY) is also 1 July to 30 June but the year is one greater than the comparable RY (e.g, FY 2010 is 1 July 2009 to 30 June 2010).

			Operations and contracting			Total cost
Period	FY	Salary[a]	Federal Aid[b]	Public Funds[c]	Other[d]	
Year 1	2006	15.0				15.0
Year 2	2007	15.0				15.0
Year 3	2008	15.0				15.0
Year 4	2009	30.0		31.6		61.6
Year 5	2010	40.0		48.6		88.6
Year 6	2011	31.5		2.9		34.4

[a]State Fish and Game fund matched 1:3 with Federal Aid (see footnote b) except for activities directly involving predator control (state funding only).
[b]Federal Aid in Wildlife Restoration (excise tax on firearms and ammunition)
[c]Capital Improvement Project or General Fund revenue from Alaska Legislature
[d]Grants, donations from private organizations, etc.